

**Title**

Hydrophilic coatings for vinyl chloride polymer surfaces

PVC +  
Polyester  
coating

**Patent Assignee**

Solvay et Cie., Belg.

**Publication Source**

Belg., 10 pp.

**CODEN**

BEXXAL

**Patent Information**

BE 1003706 A3 920526

**Application Information**

BE 90-720 900713

**Abstract**

The title coatings are prepd. from a photocurable compn. contg. a hydrophilic polyester, N-vinylpyrrolidone (I), and hexanediol diacrylate (II). The coatings show good adhesion even after contact with water or an aq. soln. of an acid or base. A compn. contg. I, II, a copolymer of ethylene glycol, methyldiethanolamine, tetrachlorophthalic anhydride, and phthalic anhydride, and a photoinitiator was coated on a PVC sheet and photocured.

**International Patent Classification****International Patent Classification, Main**

C08J007-04

**International Patent Classification, Secondary**

C09D004-06

**Document Type**

Patent

**Language**

French

**Supplementary Indexing**

polyester hydrophilicity coating PVC; hexanediol diacrylate coating PVC; vinylpyrrolidone coating hydrophilicity PVC; photocuring coating PVC; tetrachlorophthalic polyester coating PVC; methyldiethanolamine polyester coating PVC; phthalic polyester coating PVC; acid resistance coating PVC; alkali resistance coating PVC; crosslinking coating hydrophilicity PVC; adhesion coating hydrophilicity PVC; antifogging coating PVC; wettability coating PVC

**IT Related Fields**

Indexing

**Title**

Method for preventing discoloration of coatings

**Inventor Name**

Takatori, Katsuyuki; Toyono, Satoshi; Saiga, Yasuo; Tajima, Koji

**Patent Assignee**

Asahi Denka Kogyo Kk, Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 7 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 05320547 A2 931203 Heisei

**Application Information**

JP 92-128362 920521

**Abstract**

Films formed by applying thermosetting synthetic resins to PVC plastisol-coated substrates are prevented from discoloration by adding 0.001-10% perchlorates of metals, ammonium, and/or quaternary ammonium compds. and perchlorate-treated hydrotalcites and silicates to platisols and/or thermosetting resins. Thus, a chem. treated and primer-coated steel sheet was coated with a PVC plastisol contg. LiClO<sub>4</sub> to 1-mm thickness, baked at 140°, coated with a compn. contg. Bu acrylate-2-hydroxyethyl methacrylate-methacrylic acid-Me methacrylate copolymer (I), butoxylated methylolmelamine, cellulose acetate butyrate, Alpaste 1123N, and copper phthalocyanine blue to 20 .mu.m thickness, and then coated wet-on-wet with a compn. contg. I, butoxylated methylolmelamine, and 2-(2-hydroxy-3-tert-butyl-5-methylphenyl)-5-chlorobenzotriazole to 30-.mu.m thickness, and baked at 140°. The specimen showed markedly reduced discoloration compared with a control without LiClO<sub>4</sub> and retained 91% of the gloss, vs. 54% for the control when heated at 70° for 168 h.

**International Patent Classification**

International Patent Classification, Main

C09D007-12

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

perchlorate discoloration prevention plastisol thermoset

**IT Related Fields**

**Title**

Nonstick coating compositions for thermoplastic materials

**Inventor Name**

Krug, James B.; Lenox, Ronald S.; Stewart, William J.

**Patent Assignee**

Armstrong World Industries, Inc., USA

**Publication Source**

U.S., 7 pp.

**CODEN**

USXXAM

**Patent Information**

US 4830884 A 890516

**Application Information**

US 87-53897 870526

**Abstract**

The title compns. which do not impact a slippery feel to the thermoplastic substrate esp. after wetting comprise a solvent soln. of 0.05-25% salt of hydroxyalkylsulfonate and(or) alkylsulfonate and 0.025-15% alkyl sulfate salt. Vinyl acetate polymer tubes were painted with a soln. of H<sub>2</sub>O 100, Na lauryl sulfate 2, and Na 2-hydroxyethanesulfonate 5 g, dried, and packed in a cylinder at 140°F for 3-days. The force required to remove the center tube in the package was 0.8 kg, vs. tearing of the untreated tubes.

**International Patent Classification**

International Patent Classification, Main

B05D005-00

**Document Type**

Patent

**Language**

English

**Supplementary Indexing**

hydroxyethanesulfonate sodium antistick coating; sodium lauryl sulfate antistick coating; alkylsulfonate antistick coating; vinyl acetate polymer antistick coating

**IT Related Fields****Indexing****Concept Group****Concept Heading**

Pipes and Tubes

**Text Modification**

(antistick coatings for, solns. of sulfonate and sulfate salts as)

**Title**

Light-resistant **coating** materials for plastic sheets

**Patent Assignee**

Dainichiseika Color and Chemicals Mfg. Co., Ltd., Japan; Ukima Color and Chemicals Mfg. Co., Ltd.

**Publication Source**

Jpn. Kokai Tokkyo Koho, 4 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 57080432 A2 820520 Showa

**Application Information**

JP 80-157330 801108

**Abstract**

Polycarbonate-**polyester**-polyurethane **coating** materials optionally contg. **vinyl chloride** polymers form light-resistant **coatings** on PVC [9002-86-2]-ABS resin [9003-56-9] blend sheets. Thus, a mixt. of polycarbonate (prepd. from 354 parts di-Et carbonate and 708 parts 1,6-hexanediol, OH equiv 427) 786, 1,6-hexanediol 236, and dodecanedioic acid 920 parts was heated 8 h at 200-220° in vacuo to give 1750 parts polycarbonate-**polyester** (I) having mol. wt. 1647 and OH equiv. 68. A mixt. of I 150, 1,6-hexanediol 5, isophoronediamine 20, and 1,1'-isopropylidenebis(4-isocyanatocyclohexane) 160 parts was heated 8 h at 80-120° to give copolymer (II) [83441-93-4]. A compn. of II 50, MeCOEt 24, PhMe 15.8, phthalocyanine blue 6, rutile TiO<sub>2</sub> 4, antioxidant 0.1, and UV absorber 0.1 part was thinned, applied to a PVC-ABS resin blend sheet, and dried 3 min at 100-120° to form a 9-.mu. **coating** having elongation 251, 257, 188, and 110% after 0, 100, 300, and 600 h of irradiation in a fadeometer, resp., compared with 230, 153, 118, and 60, resp., for a similar **coating** contg. 10:10 blend of poly(Me methacrylate) and vinyl acetate-vinyl chloride copolymer instead of II.

**International Patent Classification**

C08J007-04

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

polycarbonate **polyester** polyurethane **coating**; PVC ABS blend sheet **coating**; light resistance **coating**

**IT Related Fields**

Indexing

**Title**

PVC decorative sheets

**Patent Assignee**

Bando Chemical Industries, Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN

JKXXAF

**Patent Information**

JP 58008650 A2 830118 Showa

**Application Information**

JP 81-107362 810708

**Abstract**

A compn. with good press-processability contg. PVC [9002-86-2] 100, modified ABS polymer (compatible with PVC) and/or chlorinated PVC 10-80, and plasticizer(s) 1-20 parts, is formed into a sheet, which is covered with an UV-curable resin to give a decorative material. Thus, a compn. contg. PVC 100, dioctyl phthalate 5, modified ABS resin Teralloy A 10 [86417-81-4] 40, tribasic lead sulfate 3, Ba stearate 1, and Pb stearate 1 part was calender-rolled to give a 0.15-mm-thick sheet with softening temp. 74°. The sheet was coated with a polyester acrylate to 30 .mu. and irradiated with UV rays at 120 W/cm and 15 m/min to give a sheet with a smooth surface (hardness 4H).

**International Patent Classification**

B32B033-00

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

polyvinyl chloride decorative sheet; ABS resin PVC decorative sheet; UV curing coating PVC sheet

**IT Related Fields****Indexing**

Concept Group

Concept Heading

Plasticizers

Text Modification

(ABS polymer-PVC blends contg., for decorative sheets)

**IT Related Fields**

**Title**

Chemically-embossed polyvinyl chloride film

**Inventor Name**

Rusincovitch, George, Jr.

**Patent Assignee**

Borden, Inc., USA

**Publication Source**

Eur. Pat. Appl., 14 pp.

**CODEN**

EPXXDW

**Patent Information**

EP 569640 A1 931118

**Designated State**

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE

**Application Information**

EP 92-307720 920825

**Priority Application Information**

US 92-882509 920513

**Abstract**

The title film is prepd. by placing a compn. of vinyl ink contg. 2.5-5% silicone oil on PVC and then top coating with a fluid coating of an arom. hydroxyl functional polyester and a polyisocyanate curing agent which is cured in the presence of a tertiary amine catalyst to form an adherent film over the substrate and whereby the fluid coating retracts from over the siliconized ink prior to curing to form a concave pattern on the cured film which is in registry with the siliconized ink. Printing PVC and PMMA-based ink which contained silicone oil and a ink without the oil on PVC film, sep., coating a top coat which contained an arom. hydroxy functional polyester isocyanate, and curing gave embossed film where the ink contained silicone oil.

**International Patent Classification****International Patent Classification, Main**

B41M001-30

**International Patent Classification, Secondary**

B41M003-06; B41M007-02; B41M007-00; B05D005-06; B44D005-00

**Document Type**

Patent

**Language**

English

**Supplementary Indexing**

chem embossed PVC film prepn; polyester polyurethane embossing PVC film; coating polyester

**Title**

Photocurable coating materials for poly(vinyl chloride) sheets

**Patent Assignee**

Nippon Chemiphar Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 5 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 57172915 A2 821025 Showa

**Application Information**

JP 81-58326 810416

**Abstract**

Photocurable coating materials having good adhesion to PVC [9002-86-2] substrates are prep'd. by treating oligomeric polyesters contg. 1,4-cyclohexanedimethanol (I) units with diisocyanates followed by active H group-contg. acrylate esters. Thus, a mixt. of adipic acid 591, isophthalic acid 224, I 389, diethylene glycol 396, and Bu<sub>2</sub>SnO 0.8 part was heated 15 h at 220-240° to give copolymer (II) having acid no. 1.2, OH no. 85, and no.-av. mol. wt. 1350. A mixt. of 625 parts II and 121 parts tolylene diisocyanate was heated 6 h at 60-100°, cooled to 40°, and treated with a mixt. of 2-hydroxyethyl acrylate 55, p-MeOC<sub>6</sub>H<sub>4</sub>OH 0.32, Bu<sub>2</sub>Sn dilaurate 0.08 part at 40-50° for 9 h to give copolymer (III) [85138-65-4]. A compn. of III 100, 2-hydroxypropyl methacrylate 50, hexamethylene diacrylate 50, and Irgacure I 651 3 parts was applied to a rigid PVC sheet and a plasticized PVC sheet to 50 .mu. and UV irradiated 3 s to form coatings having adhesion to the substrates (cross-cut test) 100/100 and (90-99)/100, resp., tensile strength 150 kc/cm<sup>2</sup> and elongation 310%, compared with <75/100, <75/100, 290, and 100, resp., for epoxy resin acrylate coatings.

**International Patent Classification**

C08F299-06; C08F002-48

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

polyester urethane acrylate coating; photocurable coating adhesion PVC;  
cyclohexanedimethanol copolymer coating

**IT Related Fields**

Indexing

Concept Group

**Title**

Aqueous dispersion or emulsion for coating poly(vinyl chloride) surfaces

**Inventor Name**

Schwarz, Guenther

**Patent Assignee**

BASF Farben und Fasern A.-G., Fed. Rep. Ger.

**Publication Source**

Ger. Offen., 11 pp.

**CODEN**

GWXXBX

**Patent Information**

DE 3112704 A1 821021

**Application Information**

DE 81-3112704 810331

**Abstract**

Aq. dispersions of acrylic polymers (min. film forming temp.  $>60^{\circ}$ ), unsatd. polyesters, 0-5 phr melamine or urea resin, and 5-20 phr methylpyrrolidone (I) [30207-69-3] contg. H<sub>2</sub>O-sol. peroxides and Co accelerators form adherent coatings on PVC [9002-86-2]. Thus, an emulsion of 1:0.55:1 maleic anhydride-1,2-propanediol copolymer trimethylolpropane diallyl ether ester [77107-86-9] (viscosity of 70% styrene soln. 100 mPa-s at  $20^{\circ}$ ) 25, 10:2:38:50 Et acrylate-methacrylic acid-Me methacrylate-styrene copolymer [28263-96-9] 20, I 5, antifoam 0.5, 10% paraffin emulsion 30, 1% Co(OAc)<sub>2</sub> 0.5, 30% H<sub>2</sub>O<sub>2</sub> 0.25, and H<sub>2</sub>O 15 parts was coated (6 g/m<sup>2</sup>) on PVC film, and dried by IR at  $100^{\circ}$  for 10 s to give a clear, storage-stable film which could be rolled without debonding.

**International Patent Classification**

C09D005-02; C09D003-66; C09D003-81; C08J007-04; C08L027-06; B05D007-02

**Document Type**

Patent

**Language**

German

**Supplementary Indexing**

PVC coating waterborne; polyester coating aq PVC; acrylic coating aq PVC; trimethylolpropane allyl ether polyester coating; maleate polyester coating aq; methacrylate copolymer coating aq; methylpyrrolidone waterborne coating PVC

**IT Related Fields****Indexing**

Concept Group

Concept Heading

**Title**

Soiling-resistant coating compositions

**Patent Assignee**

Daikin Kogyo Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 8 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 58096659 A2 830608 Showa

**Application Information**

JP 81-195375 811203

**Abstract**

The title compns. contain film-forming polymers and polyesters of  $(CF_3)_2CF(C_2F_4)_nZMe$  (I; Z = 2,3-oxiranediy; n = 3-7). Thus, paper was dipped into a soln. of 50:50 I-phthalic anhydride copolymer 0.4, PVC [9002-86-2] 39.8, and BuOAc 59.8% and dried for 48 h to give a test specimen showing excellent soiling resistance when tested on a roof top or exposed in an automobile inspection station.

**International Patent Classification**

C09D005-00; C09D003-64

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

soiling resistance polyester PVC coating; fluoro polyester coating soiling resistance

**IT Related Fields****Indexing****Concept Group****Concept Heading**

Coating materials

**Text Modification**

(PVC and acrylic polymers and polyurethane, contg. perfluoroalkyl polyesters, soiling-resistant)

**IT Related Fields****Indexing**

**Title**

Staining-resistant interior materials having fluoropolymer protective films for residential buildings

**Inventor Name**

Tsuda, Nobuhiko; Iwakiri, Ryuji; Imoto, Katsuhiko; Yonei, Yasufumi; Nagato, Masaru

**Patent Assignee**

Daikin Industries, Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 10 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 09262940 A2 971007 Heisei

**Application Information**

JP 96-74138 960328

**Abstract**

The interior materials comprise fiber base materials which have protecting films comprising fiber substrates coated or impregnated with fluoropolymer aq. dispersions. An aq. emulsion contg. 40 parts 96/2/2 mixt. of Me methacrylate, Bu acrylate, and acrylic acid was added dropwise to an aq. emulsion contg. 100 parts vinylidene fluoride homopolymer and the mixt. was treated with ammonium persulfate to give an aq. dispersion contg. F-contg. seed polymer particles. Then, natural polymer-based fibers were impregnated with a mixt. of the aq. dispersion and Texanol (film-forming additive) and dried to give a sheet, which showed high bonding strength with an interior material (tatami) and resistance to staining by a red marker.

**International Patent Classification****International Patent Classification, Main**

B32B027-04

**International Patent Classification, Secondary**

B32B027-02; B32B027-30; C08F214-18; C08F220-00; C08L051-00; D06M013-46; E04F013-00; E04F013-16; E04F015-16

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

staining resistance building interior fluoropolymer fiber; acrylic seed polymn fluoropolymer building interior

**Indexing**

IT Related Fields

**Title**

Polyester- or polyurethane-coated soilproofing sheets

**Inventor Name**

Koizumi, Kazuhisa; Maruyama, Tsutomu

**Patent Assignee**

Kansai Paint Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 6 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 09087545 A2 970331 Heisei

**Application Information**

JP 95-242850 950921

**Abstract**

The title sheets, useful for soilproofing pressure-sensitive adhesive sheets, are prepd. by applying acrylic polyesters (e.g., acrylic acid-dipentaerythritol-succinic acid-copolymer, acrylic acid-adipic acid dipentaerythritol copolymer, acrylic acid-succinic acid-ditrimethylolpropane copolymer) or acrylic polyurethanes (e.g., pentaerythritol diacrylate-TDI copolymer) contg. 1-10 phr Si compds. (e.g., SH 200, trimethoxymethylsilane, FQF 501, TSF 484) on base sheets [e.g., of PET, PVC, poly(butylene terephthalate)].

**International Patent Classification****International Patent Classification, Main**

C09D004-00

**International Patent Classification, Secondary**

C09D004-00; B05D003-06; B05D005-00; B05D007-02; B05D007-24; C09D005-00;

C09D183-04

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

polyester acrylate coated soilproofing sheet; polyurethane acrylate coated soilproofing sheet; silane polyester coated soilproofing sheet; PET soilproofing adhesive sheet; PVC soilproofing adhesive sheet; polybutylene terephthalate soilproofing adhesive sheet

**IT Related Fields****Indexing**

Concept Group

**Title**

Radiation-curable resin compositions for top coatings on PVC sheets

**Inventor Name**

Yoshioka, Kanichiro; Kaneko, Katsuichi

**Patent Assignee**

Nippon Kayaku Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 7 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 09194554 A2 970729 Heisei

**Application Information**

JP 96-27411 960123

**Abstract**

Flexible top coatings showing resistance to scratching and contamination contain ethylenic unsatd. group-substituted polyurethanes contg. (polyester)-polyols having mol. wt. 300-3000, compds. having  $\geq 1$  ethylenic unsatd. groups, and optionally fillers of av. particle diam. (P) 0.5-30  $\mu\text{m}$ . Thus, polytetramethylene glycol 242.2, neopentyl glycol 23.7, and isophorone diisocyanate 155.5 parts were polymd. and esterified with 81.3 parts 2-hydroxyethyl acrylate to give a polyurethane acrylate, 30 parts of which was mixed with 15 parts Kayarad DPHA (dipentaerythritol hexaacrylate), 10 parts Kayarad HDDA (1,6-hexanediol diacrylate), 5 parts 2-hydroxypropyl acrylate, Nipsil SS 50 (silica), Irgacure 184 (polymn. catalyst), and other additives to give a coating compn. The compn. was applied on a PVC sheet, dried at 50° for 1 min, and UV-irradiated to give a coating showing good resistance to scratching and staining by coffee and inks.

**International Patent Classification**

International Patent Classification, Main

C08F299-06

International Patent Classification, Secondary

C08F290-06; C09D004-06; C09D005-00; C09D175-16

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

radiation curable polyurethane coating PVC sheet; hydroxyethyl acrylate polyurethane ester curable coating; polytetramethylene glycol isophorone diisocyanate copolymer; neopentyl glycol

**Title**

Coating compositions containing poly(vinyl alcohol)-based copolymers for plasticized vinyl chloride resins and molded products coated with the compositions

**Inventor Name**

Hanada, Kazuyuki; Kuryama, Katsumi

**Patent Assignee**

Dainichiseika Color Chem, Japan; Ukima Gosei Kk

**Publication Source**

Jpn. Kokai Tokkyo Koho, 6 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 09059326 A2 970304 Heisei

**Application Information**

JP 95-239039 950825

**Abstract**

The comps. contain grafted copolymers of poly(vinyl alc.) (I) with aliph. polyesters. Treatment of 100 parts I with 20 parts .epsilon.-caprolactone in the presence of (BuO)<sub>4</sub>Ti gave a graft copolymer. Then, the copolymer was dissolved in 3:7 isopropanol-H<sub>2</sub>O mixt., spread on a plasticized PVC sheet to dry thickness 3 mm, and dried to give a coated sheet which showed good bleed-out resistance, staining resistance, adhesion, flexibility, water resistance, and solvent resistance.

**International Patent Classification****International Patent Classification, Main**

C08F261-04

**International Patent Classification, Secondary**

C08G063-08; C08J007-04; C08J007-16; C09D151-06

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

PVA aliph polyester graft copolymer coating; caprolactone PVA graft copolymer coating; plasticized PVC coating vinyl alc copolymer; bleed out resistance coating plasticized PVC; staining resistance coating vinyl alc copolymer

**IT Related Fields****Indexing**

Concept Group

**Title**

Method for manufacture of polyester laminated sheet with excellent surface luster

**Inventor Name**

Yamamoto, Masahiro

**Patent Assignee**

Dainippon Printing Co Ltd, Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 4 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 06270261 A2 940927 Heisei

**Application Information**

JP 93-86887 930323

**Abstract**

The title sheet is manufd. by coating a continuous polyester film with an adhesive, drying and laminating with a thermoplastic film (PVC) via the adhesive layer using a nip of a heated metal roll and a rubber roll at metal roll surface temp. 40-195° and nip line pressure >5 kg/cm where the luster is enhanced by using a metal roll having mirror-finished surface.

**International Patent Classification**

International Patent Classification, Main

B29C065-48

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

lamination polyester PVC; luster laminate manuf polyester

**IT Related Fields****Indexing**

Concept Group

Concept Heading

Luster

Text Modification

(method for manuf. of polyester laminated sheet with excellent surface luster)

**IT Related Fields****Indexing**

Concept Group

**Title**

Stain-resistant cleanable flexible PVC films

**Inventor Name**

Morse, David R.

**Patent Assignee**

Borden, Inc., USA

**Publication Source**

U.S., 6 pp.

**CODEN**

USXXAM

**Patent Information**

US 5346755 A 940913

**Application Information**

US 93-147786 931104

**Abstract**

The films comprise a base film and a coating, wherein the base film comprises PVC resin, a polymeric plasticizer, and an alloying polymer selected from acrylonitrile-butadiene rubber and ethylene-Bu acrylate-carbon monoxide polymer, and the coating comprises poly(Me methacrylate) and/or a flexibilizing polymer such as vinyl chloride-vinyl acetate copolymer and/or a flexibilizing copolymer of MMA. The coated film gives superior oil and stain resistance, and can be post laminated to various fabric substrates.

**International Patent Classification**

International Patent Classification, Main

B32B027-08

**Document Type**

Patent

**Language**

English

**Supplementary Indexing**

PVC alloy film laminate; flexible PVC laminated fabric; acrylic stain resistance coating PVC; acrylonitrile butadiene rubber PVC coating; cleanable flexible PVC film; polyester nonwoven PVC laminate

**IT Related Fields****Indexing**

Concept Group

Concept Heading

Textiles

Text Modification

**Title**

Preparation of **polyester-polyurethane coatings** for leather substitutes

**Inventor Name**

Hebestreit, Gerhard; Gierth, Wolfgang; Loose, Uta; Steinhardt, Rolf; Beran, Miroslav; Fiala, Frantisek; Burian, Petr

**Patent Assignee**

Forschungsinstitut fuer Leder- und Kunstledertechnologie, Germany

**Publication Source**

Ger. (East), 4 pp.

**CODEN**

GEXXA8

**Patent Information**

DD 293600 A5 910905

**Application Information**

DD 89-335874 891219

**Abstract**

The title **coatings**, with good aging resistance, are prepd. from prepolymers prepd. from **polyester** diols (viscosity 8-22 Pa-s) contg. 25-50 mol% neopentyl glycol (I) or hexanediol (II), diisocyanates, and difunctional chain extenders. Heating 7 kg **polyester** (OH no. 57.7) from butanediol, I, II, and adipic acid with 2 kg MDI in 9 kg DMF at 50-60° for 1 h gave a product contg. 1.7% NCO which was heated with 1 kg butanediol in 1 kg DMF for 30 min and then with 2.5 kg MDI in 2.5 kg DMF for 1 h, thinned with DMF to 25% solids, and stirred with 0.1 kg N2H4.cntdot.H2O until the viscosity was 20 Pa-s. This soln. was pigmented, coated (40 g/m2) on release paper, covered with a PVC plastisol, foamed at 100-140°, and laminated with a fabric at 180-185° to give a leather substitute retaining good surface quality after 2 yr storage.

**International Patent Classification**

**International Patent Classification, Main**

C08G018-42

**International Patent Classification, Secondary**

B32B027-40

**Document Type**

Patent

**Language**

German

**Supplementary Indexing**

polyurethane coating leather substitute; **polyester** polyurethane leather substitute; PVC foam leather substitute; neopentyl glycol **polyester** polyurethane; hexanediol **polyester** polyurethane coating

**Title**

Modified polyester soilproofing coating materials for vinyl chloride products

**Inventor Name**

Date, Masakazu; Sakai, Hiroyuki; Inaba, Toshiaki

**Patent Assignee**

Takamatsu Yushi K. K., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 4 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 03181530 A2 910807 Heisei

**Application Information**

JP 89-319610 891208

**Abstract**

The title coating materials mainly comprise aq. dispersions of polyester derivs. prepd. by modifying polyesters having .gtoreq. 1 hydrophilic groups selected from polyethylene glycol, OH, carboxyl, CO, cyano, NH<sub>2</sub>, MeCO, CO<sub>2</sub>H, sulfonate salt, sulfate salt, phosphate salt, and quaternary ammonium salt, etc. with vinylsilanes and, optionally, unsatd. group-contg. compds. Thus, 20 parts .gamma.-methacryloxypropyltrimethoxysilane was added dropwise to an aq. dispersion of Pes Resin 8415 (polyester aq. dispersion) contg. benzoyl peroxide, KBM 503, and Pysurf A 217E (polyoxyethylene alkyl ether phosphate) at 75-80°, stirred at 80-85°, and cooled to 25° to give an aq. dispersion (solid content 16.5%, pH 3.6), which was mixed with 0.5% surfactants composed of 50% Neocol SWC and Peretex 1225 to give a coating material, which when applied to flexible PVC film-covered polyester fabrics showed good adhesion and soilproofing property even after 1-yr outdoor exposure.

**International Patent Classification**

International Patent Classification, Main

C08J007-04

International Patent Classification, Secondary

C09D005-02; C09D167-00; C09K003-00

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

vinylsilane modified polyester coating PVC; soilproofing flexible PVC polyester coating; antisoiling polyester coating

**Title**

UV-curable polyurethane acrylate coating compositions and coated sheets

**Inventor Name**

Niimoto, Masaki; Aoki, Toshiichi; Sato, Mitsuo

**Patent Assignee**

Mitsubishi Rayon Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN

JKXXAF

**Patent Information**

JP 02292315 A2 901203 Heisei

**Application Information**

JP 89-109087 890501

**Abstract**

The title compns. forming **coatings** with excellent yellowing resistance, weatherability, hardness, and adhesion comprise 100 parts (meth)acrylates contg. 10-70% polyurethane (meth)acrylates prepd. from org. polyisocyanates, polyols, and OH-contg. (meth)acrylates and 30-90% compds. contg. .gtoreq.1 (meth)acryloyl group, 0.01-10 parts photoinitiators, 0.01-5 parts primary antioxidants, 0.01-5 parts hindered amine light stabilizers, and 0.01-5 parts UV absorbers. **PVC** films or sheets or **polyester** films having cured **coatings** prepd. from the above compns. show good weatherability. Thus, 222.3 g isophorone diisocyanate and 437.95 g poly(tetramethylene glycol) were heated at 60° for 4 h and treated with 116 g 2-hydroxyethyl acrylate in presence of hydroquinone mono-Me ether at 60° for 6 h to give an urethane acrylate (I). A white **PVC** film was coated with a compn. contg. I 50, pentaerythritol tetraacrylate 30, neopentyl glycol diacrylate 20, 1-hydroxycyclohexyl Ph ketone 2, 2,2'-methylenebis(4-methyl-6-tert-butylphenol) 0.3, bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 0.3, 2,4'-dihydroxybenzophenone 0.3, and a Si leveling agent 0.2 part and irradiated by UV to form a **coating** with yellowing index 1.2, cross-cut adhesion 100/100, and good resistance to gasoline, aq. NaOH, and aq. H2SO4, vs. 1.8, 80/100, and good, resp., for a **coating** contg. Epikote 828 diacrylate instead of I.

**International Patent Classification**

International Patent Classification, Main

C08F299-08

International Patent Classification, Secondary

C09D155-00

**Document Type**

Patent

**Title**

Decorative board for furniture

**Inventor Name**

Maeda, Satoru

**Patent Assignee**

MK Maeda Kagu Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 3 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 02175240 A2 900706 Heisei

**Application Information**

JP 88-333474 881228

**Abstract**

A substrate is coated with a resin layer via an Al foil and topcoated with a UV-curable resin to prep. a decorative board. The Al foil improved the heat conduction of the decorative board. Thus, a medium-d. fiberboard, an Al foil, and a vinyl chloride resin decorative sheet were bonded with an adhesive, coated with a primer, sprayed with 1 of polyester, polyurethane, etc., sanded, coated with a UV coating material, and irradiated with UV to prep. a decorative board having good resistance to burning cigaret.

**International Patent Classification**

International Patent Classification, Main

B32B015-08

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

decorative board furniture aluminum foil; UV coating decorative board

**IT Related Fields****Indexing**

Concept Group

Concept Heading

Furniture

Text Modification

(decorative boards for, fiberboard-aluminum foil-PVC laminates coated with UV-curable coating materials for)

**Title**

Transparent coatings for plastic moldings

**Inventor Name**

Sakai, Hiroyuki; Date, Masakazu; Inaba, Toshiaki

**Patent Assignee**

Takamatsu Yushi K. K., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 4 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 63254139 A2 881020 Showa

**Application Information**

JP 87-89629 870410

**Abstract**

The title **coatings**, resistant to migration of plasticizers from **vinyl chloride resins** and of oligomers from **polyesters**, comprise aq. **polyesters** modified with 5-150% compds. contg. crosslinkable and unsatd. groups. Mixing a **polyester** (Pes Resin 8415) 834, Bz2O2 2, Me methacrylate (I) 15, Plysurf A217E 3.5, and H2O 124.5 parts at 70° and stirring with 90 parts I and 20 parts (trimethoxysilyl)propyl methacrylate at 75-85° for 130-140 min gave a water-based **coating** which was thinned to 10% solids, coated on a **PVC** film, dried at 90° for 3 min, left at 50° and 90% relative humidity for 1 wk, and washed to give a film with good transparency; vs. poor without the **coating**.

**International Patent Classification**

**International Patent Classification, Main**

C08J007-04

**International Patent Classification, Secondary**

C08J007-04

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

plastic film **coating** transparent; **polyester** **coating** waterborne; methacrylate adduct **polyester** **coating**; silane deriv **polyester** **coating**; plasticizer migration resistance **coating**; **PVC** film **coating** transparent

**IT Related Fields**

Indexing

**Title**

Scratch-resistant coatings for flexible plastic windows

**Inventor Name**

Heck, Wolfgang; Wolf, Uwe

**Patent Assignee**

Porsche, Dr. Ing. h.c. F., A.-G., Fed. Rep. Ger.

**Publication Source**

Ger. Offen., 5 pp.

**CODEN**

GWXXBX

**Patent Information**

DE 3636264 A1 880505

**Application Information**

DE 86-3636264 861024

**Abstract**

The title coatings, esp. useful on car rear windows from plasticized PVC, consist of elastic polyurethane acrylates or polyester acrylates. A two-component, clear polyurethane acrylate (Glassodur, 42% solids) was sprayed at 3.5-4 bar to a thickness of 30-40 .mu.m and baked at 80° for 30 min.

**International Patent Classification****International Patent Classification, Main**

C08L027-06

**International Patent Classification, Secondary**

C08J007-04; C08J005-18; B60J001-02; B05D001-02; B05D001-18; B05D001-26;  
B41M001-26

**Document Type**

Patent

**Language**

German

**Supplementary Indexing**

scratch resistance coating window; PVC window coating; automobile window plastic coating; polyurethane acrylate coating window; polyester acrylate coating window; acrylate polymer coating window

**IT Related Fields****Indexing****Concept Group****Concept Heading**

Windows

**Title**

Photocurable UV-absorbing coatings for protection of PVC

**Inventor Name**

Decker, Christian

**Patent Assignee**

Centre National de la Recherche Scientifique, Fr.

**Publication Source**

PCT Int. Appl., 29 pp.

**CODEN**

PIXXD2

**Patent Information**

WO 8705307 A1 870911

**Designated State**

W: DK, FI, NO, US

RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE

**Application Information**

WO 87-FR50 870303

**Priority Application Information**

FR 86-3002 860304

**Abstract**

The title coatings, which do not impair the mech. or optical properties of PVC, contain polyester (meth)acrylates, polyurethane (meth)acrylates, photocuring catalysts, light stabilizers or UV absorbers, and, optionally, diacrylate reactive diluents. A mixt. of polyester hexaacrylate (Ebecryl 830) 30, polyurethane diacrylate (Actilane 20) 20, hexanediol diacrylate 50, photocuring catalyst (1-hydroxycyclohexyl Ph ketone) 5, and UV absorber [2-benzotriazol-2-yl-4,6-bis(.alpha.,.alpha.-dimethylbenzyl)phenol] 0.5 parts was coated on a PVC sheet and cured by UV irradiation for 1 s. The coated PVC required 2000 h accelerated weathering for a 10% reduction in transparency at 420 nm; vs. 300 without the coating.

**International Patent Classification**

International Patent Classification, Main

C08J007-04

International Patent Classification, Secondary

C08L027-06

**Document Type**

Patent

**Language**

French

**Supplementary Indexing**

**Title**

Thermosetting water-dispersed **coating** composition

**Patent Assignee**

Kansai Paint Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 7 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 58145767 A2 830830 Showa

**Application Information**

JP 82-27200 820222

**Abstract**

The compn. comprises a thermosetting film-forming resin compn. consisting of water-sol. resin, water-dispersible acrylic resin, and crosslinking agent and a fine-powdery synthetic deriv. dispersed therein (solid particles both at room temp. and heat-curing temp.; av. particle size  $\approx 50 \mu$ ; insol. in the above film-forming resin)  $\approx 60\%$  with regard to the solid matter of the film-forming resin. The compn. shows a good balance of hardness and elongation. Thus, ethylene glycol 0.5, pentaerythritol 0.5, phthalic acid 1, trimellitic anhydride 0.1, soybean oil fatty acid 0.4 mol and Bu cellosolve reacted to give, after neutralization with Et<sub>3</sub>N, a water-sol. resin. Then Na dodecylbenzenesulfonate 1, Noigen EA 140 3, water 150, styrene 30, Bu methacrylate 58, hydroxypropyl methacrylate 10, acrylic acid 2, and NH<sub>4</sub> persulfate 0.5 part were emulsion-polymd. to obtain an acrylic resin (I) [59818-55-2] dispersed in water. Water-sol. resin 40, I 40 (dispersed in water), Cymel 370 [9003-08-1] 20, and Noigen EA 102 surfactant 1 part were mixed to obtain a paste, which was mixed with Vinika P 440 (PVC) [9002-86-2] fine powder (av. particle size  $1.4 \mu$ , no.-av. mol. wt. 120,000) and Mark 465 stabilizer to give a thermosetting water-dispersed **coating** compn. A cured coated film using the compn. showed excellent values for Young's modulus and elongation.

**International Patent Classification**

C09D003-81

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

water dispersible acrylic coating; PVC acrylic coating; malamine formaldehyde resin crosslinker coating; phthalate trimellitate polyester coating

**IT Related Fields**

Indexing

**Title**

Light-resistant **coating** materials for plastic sheets

**Patent Assignee**

Dainichiseika Color and Chemicals Mfg. Co., Ltd., Japan; Ukima Color and Chemicals Mfg. Co., Ltd.

**Publication Source**

Jpn. Kokai Tokkyo Koho, 4 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 57080432 A2 820520 Showa

**Application Information**

JP 80-157330 801108

**Abstract**

Polycarbonate-polyester-polyurethane **coating** materials optionally contg. vinyl chloride polymers form light-resistant **coatings** on PVC [9002-86-2]-ABS resin [9003-56-9] blend sheets. Thus, a mixt. of polycarbonate (prepd. from 354 parts di-Et carbonate and 708 parts 1,6-hexanediol, OH equiv 427) 786, 1,6-hexanediol 236, and dodecanedioic acid 920 parts was heated 8 h at 200-220° in vacuo to give 1750 parts polycarbonate-polyester (I) having mol. wt. 1647 and OH equiv. 68. A mixt. of I 150, 1,6-hexanediol 5, isophoronediamine 20, and 1,1'-isopropylidenebis(4-isocyanatocyclohexane) 160 parts was heated 8 h at 80-120° to give copolymer (II) [83441-93-4]. A compn. of II 50, MeCOEt 24, PhMe 15.8, phthalocyanine blue 6, rutile TiO<sub>2</sub> 4, antioxidant 0.1, and UV absorber 0.1 part was thinned, applied to a PVC-ABS resin blend sheet, and dried 3 min at 100-120° to form a 9- $\mu$ . **coating** having elongation 251, 257, 188, and 110% after 0, 100, 300, and 600 h of irradiation in a fadeometer, resp., compared with 230, 153, 118, and 60, resp., for a similar **coating** contg. 10:10 blend of poly(Me methacrylate) and vinyl acetate-vinyl chloride copolymer instead of II.

**International Patent Classification**

C08J007-04

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

polycarbonate polyester polyurethane **coating**; PVC ABS blend sheet **coating**; light resistance **coating**.

**IT Related Fields**

Indexing

**Title**

Photocurable coating materials

**Patent Assignee**

Mitsubishi Petrochemical Co., Ltd., Japan

**Publication Source**

Jpn. Kokai Tokkyo Koho, 6 pp.

**CODEN**

JKXXAF

**Patent Information**

JP 56159260 A2 811208 Showa

**Application Information**

JP 80-63709 800514

**Abstract**

Oligomeric **polyesters** derived from polycarboxylic acids and tricyclodecanedimethanol, polyalkylene glycol cyclohexanedimethanol ether, or polyalkylene glycol cyclohexanediol ether are esterified with acrylic acid (I) and formulated with photochem. initiators to give photocurable **coating materials** having good adhesion to **PVC [9002-86-2]** substrates. Thus, a mixt. of 2 mol polyethylene glycol cyclohexanedimethanol ether and 1 mol adipic acid was heated 10 h at 210° to give a **polyester (II)** having acid no. 8. A mixt. of 1 mol II and 2.5 mol I was heated in PhMe in the presence of 0.03 wt.% (based on I) phenothiazine and a catalytic amt. of p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H and stripped of solvent and residual I. A compn. of the above acrylate 100, benzophenone 3, and triethanolamine 1 part was applied to a **PVC** plate and UV irradiated to form a 75-.mu. copolymer [81063-48-1] **coating** having adhesion to the substrate (cross-cut test) 100/100.

**International Patent Classification**

C09D005-00; C08J007-04; C09D003-727; C09D011-10

**Document Type**

Patent

**Language**

Japanese

**Supplementary Indexing**

oligomeric **polyester** acrylate **coating**; adipic acid copolymer acrylate; cyclohexanedimethanol polyethylene glycol ether; photocurable **coating** oligoester acrylate

**IT Related Fields****Indexing**

Concept Group

Concept Heading

Crosslinking

Text Modification

